

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-52 (Cancelled)

Claim 53 (Previously Presented) A transmission apparatus connected to an optical signal transmission line, first network and second network, comprising:

an optical frequency selection unit for selecting a first optical signal of a first optical frequency and a second optical signal of a second optical frequency among an optical frequency division multiplexed signal received from said optical signal transmission line and transmitting said selected first and second optical signals separately,

a first optical frequency conversion unit connected to said optical frequency selection unit and said first network for converting a frequency of said first optical signal from said first optical frequency to a third optical frequency and transmitting an optical signal of said third optical frequency toward said first network,

a second optical frequency conversion unit connected to said optical frequency selection unit and said second network for converting a frequency of said second optical signal from said second optical frequency to said third optical frequency and transmitting an optical signal of said third optical frequency toward said second network,

wherein said first optical frequency is allotted for transmissions of signals from said optical transmission line to said first network,

said second optical frequency is allotted for transmissions of signals from said optical transmission line to said second network, and

said third optical frequency is allotted for transmissions of signals from said transmission apparatus to said first and second networks.

Claim 54 (Previously Presented) A transmission apparatus according to Claim 53, comprising a control unit for instructing said optical frequency selection unit to transmit said first optical signal to said first optical frequency conversion unit and to transmit said second optical signal to said second optical frequency conversion unit.

Claim 55 (Previously Presented) A transmission apparatus according to Claim 54, wherein said control unit is notified via said optical transmission line that said first optical frequency corresponds to said first network and that said second optical frequency corresponds to said second network.

Claim 56 (Previously Presented) A transmission apparatus according to Claim 53, comprising a control unit for indicating said first and second optical frequency conversion unit to convert a frequency of input optical signal to said third frequency that is allotted to said first apparatus and second apparatus.

Claim 57 (Previously Presented) A transmission apparatus according to Claim 53, wherein said optical frequency selection unit comprising:

a demultiplexer for demultiplexing said optical frequency division multiplexed signal and transmitting said first optical signal and said second optical signal separately, and

an optical space switch connected to said demultiplexer for guiding said first optical signal and said second optical signal to said first optical frequency conversion unit and to said second optical frequency conversion unit respectively based upon instructions of said controller.

Claim 58 (Previously Presented) A transmission apparatus according to Claim 53, further connected to the other optical transmission line and further comprising:

a third optical frequency conversion unit connected to said first network for receiving a third optical signal of fourth optical frequency from said first network and converting a frequency of said third optical signal from said fourth optical frequency to a fifth optical frequency and transmitting said converted third optical signal toward said other optical transmission line,

a fourth optical frequency conversion unit connected to said second network for receiving a fourth optical signal of fourth optical frequency from said second network and converting a frequency of said fourth optical signal from said fourth optical frequency to a sixth optical frequency and transmitting said converted fourth optical signal toward said other optical transmission line, wherein

said fourth optical frequency is allotted for transmissions of signals from said first and second networks to said transmission apparatus,

said fifth optical frequency is allotted for transmissions of signals from said first network to said other optical transmission line,

said sixth optical frequency is allotted for transmissions of signals from said second network to said other optical transmission line.

Claim 59 (Previously Presented) A transmission apparatus connected to an optical signal transmission line and further connected to first and second networks, comprising:

an optical divider for dividing an optical frequency division multiplexed signal received from said optical signal transmission line into a first optical frequency division multiplexed signal and a second optical frequency division multiplexed signal,

a first optical frequency selection unit receiving said first optical frequency division multiplexed signal for selecting a first optical signal of a first optical frequency among said first optical frequency division multiplexed signal and transmitting said selected first optical signal,

a second optical frequency selection unit receiving said second optical frequency division multiplexed signal for selecting a second optical signal of a second optical frequency among said second optical frequency division multiplexed signal and transmitting said selected second optical signal,

a first optical frequency conversion unit connected to said first optical frequency selection unit and said first network for converting a frequency of said first

optical signal from said first optical frequency to a third optical frequency and transmitting an optical signal of said third optical frequency toward said first network, and

a second optical frequency conversion unit connected to said second optical frequency selection unit and said second network for converting a frequency of said second optical signal from said second optical frequency to said third optical frequency and transmitting an optical signal of said third optical frequency toward said second network.

Claim 60 (Previously Presented) A transmission apparatus according to Claim 59, wherein

said first optical frequency is allotted for transmissions of signals from said optical transmission line to said first network,

said second optical frequency is allotted for transmissions of signals from said optical transmission line to said second network, and

said third optical frequency is allotted for transmissions of signals from said transmission apparatus to said first and second networks.

Claim 61 (Previously Presented) A transmission apparatus according to Claim 59, comprising a control unit for indicating said first and second optical frequency conversion unit to convert a frequency of input optical signal to said third frequency that is allotted to said first apparatus and second apparatus.

Claim 62 (Previously Presented) A transmission apparatus according to Claim 59, further connected to the other optical transmission line and further comprising:

a third optical frequency conversion unit connected to said first network for receiving a third optical signal of fourth optical frequency from said first network and converting a frequency of said third optical signal from said fourth optical frequency to a fifth optical frequency and transmitting said converted third optical signal toward said other optical transmission line,

a fourth optical frequency conversion unit connected to said second network for receiving a fourth optical signal of fourth optical frequency from said second network and converting a frequency of said fourth optical signal from said fourth optical frequency to a sixth optical frequency and transmitting said converted fourth optical signal toward said other optical transmission line, wherein

said fourth optical frequency is allotted for transmissions of signals from said first and second networks to said transmission apparatus,

said fifth optical frequency is allotted for transmissions of signals from said first network to said other optical transmission line,

said sixth optical frequency is allotted for transmissions of signals from said second network to said other optical transmission line.